

Remarks

This preliminary amendment is submitted to commence prosecution of a continuation application claiming priority from SN 09/254,618, filed October 20, 1999, which is the US national phase of PCT/DE97/02022, filed October 9, 1997.

The parent application, handled by Examiner C. Sherrer, Group Art Unit 1761, was the subject of an appeal in which the Examiner's rejection of the previous claims was affirmed. This preliminary amendment makes the formal corrections made in the specification and drawings in the parent application, cancels the original claims, and submits a new and narrower set of claims for examination.

The claims have been amended to better distinguish over the prior art relied upon in the parent application. Among other changes, the amended claims define the closed-container nature of the gas container that fits in the beverage container (as opposed to a plenum subdividing the beverage container), the affixation of the gas container within the beverage container by an involution or projection that forms a snap-together knob/receptacle coupling, and the provision of plural gas openings at different elevations.

The parent claims were rejected over a combination of US 5,683,732 – Baxter and 5,340,595 – Cameron-Price. The rejection, affirmed on appeal, was based on the proposition that the adhesive affixing Baxter's gas container to the bottom of the beverage container could be routinely replaced by a snap-together connection as provided in Cameron-Price.

According to the invention defined in the claims as amended, there are two gas openings provided in a gas container that is a closed container capable of being snapped into place, i.e., capable of carrying a gas supply and mounted in position on the bottom of the beverage container. In order to assess the invention, it is necessary to consider not only the existence of a container but also what elements form the container, how it is attached to the bottom of the container, and how these structures affect the manner in which the gas is introduced into the gas container and later released. A person of ordinary skill in the art will certainly appreciate that there is no

point in putting a container into the bottom of a beverage container in a way that would defeat the needs to fill the gas container with gas, to fill the beverage container with liquid, to keep the gas and liquid separated, and finally to release the gas into the liquid only at the appropriate time. The problem is not only to attach together parts but is also to introduce, store and release a supply of gas under the surface of a liquid beverage in a container.

The two major references, Baxter and Cameron-Price, concern different ways of dealing with gas in a container. In one type (Baxter), a supply of gas is waiting in gas container having plural openings that are too small to vent until there is a pressure difference. As discussed below, the reason for having two openings is that the gas container can be pressurized indirectly when the can is inverted. Cameron-Price has embodiments with one opening, openings at the same level, pop-off covers, etc., wherein the necessary structural aspects are not present to achieve capture of the gas, maintenance of gas below a liquid surface, and release through openings as claimed.

Applicant's gas container preferably made of separate parts. This is advantageous in that the bottom part of the gas container not only can be affixed as a container within the beverage container, but also functions as a gas container without relying on the container wall. Applicant's gas container can be charged with gas without the same concerns. Applicant's gas container filling and mounting processes can be integrated easily into the filling process by which the liquid beverage is filled and the beverage container is closed.

Applicant claims a snap-on gas container having two or more restricted-size openings. In Baxter there are plural openings that are used in conjunction with inverting and over-pressurizing a container to force head space gas into an opening at one elevation while draining liquid from another opening. This operation is advantageous, but plainly relies on the gas container being in position on the container bottom. Baxter thus teaches only a fixed gas cylinder and would not lead routinely to a separable, snap-connection sort of mounting.

Cameron-Price likewise does not teach or routinely lead to the possibility of snap-mounting of a gas container of a closed type with two or more openings at different elevations. The only pertinent embodiment in Cameron-Price for an opening communicating with the beverage container is Fig. 1. The other embodiments lack an opening into the liquid. Thus, in order to release gas, the gas containers must rupture by popping off their covers. A single opening is provided in the top of the gas container wall in Cameron-Price. The reference lacks multiple openings into the liquid, or openings at different elevations for any purpose.

Cameron-Price has an axially short gas container, i.e., a low flat configuration. This arrangement with one gas opening is low because the opening needs to be clear of the liquid if the gas container is to be charged by overpressure after the container is filled. In order to introduce gas into Cameron-Price with head space overpressure, the can is turned upside-down immediately after filling and is closed at a pressure greater than atmospheric. For example, the container can be filled and closed immediately after introducing a drop of liquid nitrogen, then turned over. The shape of the gas container is low and flat to permit the gas opening to reside in the head space above the liquid when the can is upside-down. Only in this way can the gas container be loaded or charged with the overpressure from the headspace. When the can is opened, the overpressure is released into the beverage to generate gas bubbles.

The gas container of the present invention, like the permanently affixed arrangements in Baxter, has openings at different elevations. The charging of the head space involves gas flowing from the head space into the gas container at the highest elevation, i.e., the opening near the bottom wall of the inverted container. The venting of gas from the gas container into the liquid beverage when the upright container is opened for consumption occurs through the other orifice, which is at a higher elevation when the container is upright. Cameron-Price's supposed detachable cover with one opening and rear-directed walls with multiple openings, do not lead to the claimed invention as a whole.

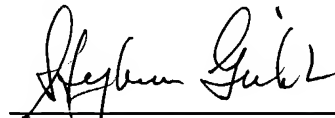
Cameron-Price specifically teaches (col. 2, lines 47-55) that it is necessary to charge the container with nitrogen at super-atmospheric pressure prior to filling the container with a beverage, the beverage also having dissolved carbon dioxide. Thus it is plain from Cameron-Price's structure and explicit discussion that the object is to build a gas container in the bottom of the container, just as it is Baxter's object to pre-affix a gas container by adhesive or welding in the bottom of the container. The prior art references individually and in combination teach away from a snap-in connection of a two-opening Baxter-type gas container as now particularly and distinctly claimed.

Applicant has presented claims that better distinguish over the prior art cited in the parent application. The claims are definite. The differences between the invention and the prior art are such that the subject matter claimed as a whole is not shown to have been known or obvious. Applicant requests examination of the claims as amended and allowance in due course.

Respectfully submitted,

Date:

July 18, 2003



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Docket No. 3241-57-1